

## WE CLAIM:

1           1. A pyrotechnic initiator comprising:  
2           an electrically energizable initiator bridge; and  
3           a reactive layer on said initiator bridge for  
4 liberation of energy upon electrical energization of said bridge,  
5 said reactive layer being comprised of a combustible metal or a  
6 metal capable of liberating energy by alloying with a metal of  
7 said bridge.

1           2. The pyrotechnic initiator defined in claim 1  
2 wherein said reactive layer is applied to said initiator bridge  
3 in the form of a streak or spaced apart islets.

1           3. The pyrotechnic initiator defined in claim 2,  
2 further comprising a thin electrically insulating layer between  
3 said initiator bridge and said reactive layer.

1           4. The pyrotechnic initiator defined in claim 3  
2 wherein said electrically insulating layer is an oxide or nitride  
3 of a metal of the reactive layer.

1           5. The pyrotechnic initiator defined in claim 4  
2 wherein said reactive layer is comprised of zirconium as a  
3 combustible metal.

1           6. The pyrotechnic initiator defined in claim 4  
2 wherein said reactive layer is comprised of a combustible metal  
3 selected from the group which consists of titanium, hafnium,  
4 niobium, tantalum, aluminum and nickel.

1           7. The pyrotechnic initiator defined in claim 1  
2 wherein said bridge is composed of at least one metal selected  
3 from the group which consists of gold and palladium, and said  
4 reactive layer comprises nickel.

1           8. The pyrotechnic initiator defined in claim 7,  
2 further comprising an ignition promotor in a region of said  
3 bridge and said reactive layer.

1           9. The pyrotechnic initiator defined in claim 1  
2 wherein the bridge is composed of at least one metal selected  
3 from the group of platinum and other platinum-group metals, and  
4 the reactive layer comprises aluminum.

1           10. The pyrotechnic initiator defined in claim 1,  
2 further comprising a thin electrically insulating layer between  
3 said initiator bridge and said reactive layer.

1           11. The pyrotechnic initiator defined in claim 10  
2 wherein said electrically insulating layer is an oxide or nitride  
3 of a metal of the reactive layer.

1           12. The pyrotechnic initiator defined in claim 1  
2 wherein said reactive layer is comprised of zirconium as a  
3 combustible metal.

1           13. The pyrotechnic initiator defined in claim 1  
2 wherein said reactive layer is comprised of a combustible metal  
3 selected from the group which consists of titanium, hafnium,  
4 niobium, tantalum, aluminum and nickel.

1           14. A method of making a pyrotechnic initiator,  
2 comprising the steps of:

3           applying to an electrically energizable initiator  
4 bridge composed of at least one metal a reactive layer for  
5 liberation of energy upon electrical energization of said bridge,  
6 said reactive layer being comprised of a combustible metal or a  
7 metal capable of liberating energy by alloying with a metal of  
8 said bridge; and

9           forming the metal of the reactive layer by dispersing a  
10 metal of the reactive layer in a resin, printing the resin  
11 containing the dispersed metal of the reactive layer onto the  
12 bridge, drying the printed resin and sintering the metal of said  
13 reactive layer, thereby bonding the metal of the reactive layer  
14 to said bridge.

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1           15. The method defined in claim 14 wherein a less noble  
2 metal is dispersed in said resin and after printing by screen  
3 printing is sintered in a reducing atmosphere and thereafter a  
4 more noble metal is applied to the less noble metal by vapor  
5 deposition or sputtering.

1           16. The method defined in claim 14 wherein initially a  
2 more noble metal is dispersed in said resin and after printing by  
3 screen printing is sintered and thereafter a less noble metal is  
4 applied by screen printing in a resin and is sintered at a  
5 reduced temperature in a protective gas atmosphere.